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ABSTRACT

Two popular learning environments, TeleTOP and Blackboard, are implemented for specific educational contexts in many universities and other institutions. The goal is to increase the use of information and communication technology (ICT) in education, particularly network technology or Web-based systems. These electronic learning environments do not seem to differ a lot in functionalities and use. Also, the problems that instructors have to deal with are similar. Instructors must learn how to work with these new tools, and discover how they effect their education. Based on two similar "best practice days" the successful experiences with functionalities offered and functionalities used by the instructors are described, and outcomes are presented. Instructors can make education flexible (in time and place) for students, but should be aware of time consuming activities that cause dissatisfaction and frustration. The target should be that students should benefit from the added value of electronic learning environments, that functionalities are useful for the students and that the use is consistent. (Author)

Best practices experiences: successful use of electronic learning environments

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Abstract: Two popular learning environments, TeleTOP and Blackboard, are implemented for specific educational contexts in many universities and other institutions. Goal is to increase the use of information and communication technology (ICT) in education, particularly network technology or Web-based systems. These electronic learning environments do not seem to differ a lot in functionalities and use. Also, the problems that instructors have to deal with are similar. Instructors must learn how to work with these new tools, and discover how they effect their education. Two similar *best practice days* successful experiences with functionalities offered and functionalities used by the instructors learn that instructors can make education as flexible (in time and place) for students, but should be aware of time consuming activities that cause dissatisfaction and frustration. The target should be that students should benefit from the added value of electronic learning environments, use functionalities that are useful for the students and the use is consistently.

Introduction

The inevitable expansion of the opportunities of technology and the growing awareness of the possibilities for using the technology in a specific educational context are causing many universities and other institutions to increase the use of information and communication technology (ICT) in education, particularly network technology or Web-based systems. In relation to this many organizations are using or starting to use electronic learning environments. Two of such learning environments, TeleTOP and Blackboard, are described here. After a brief overview of the general concept of an electronic learning environment the two environments will be described, considering the differences, but also the similarities between the two systems. Based on two similar *best practice days* the successful experiences with functionalities offered and functionalities used by the instructors will be described, concluded with some important outcomes.

Electronic learning environments

TeleTOP and Blackboard are two examples of tailor-made Web applications, also known as course management systems, virtual learning environments or electronic learning environments. Mirande, Riemersma and Veen (1997) give a very broad definition of an electronic learning environment. They describe it as a learning environment that uses technology. Jansen, Fisser, and Terlouw (2000) describe an electronic learning environment as an environment that supports and enriches the traditional environment by functionally using new forms of ICT. Droste (2000) defines e-learning platforms as the technical facilities that facilitate interaction in the learning process, communication, and organization. The three main characteristics of an e-learning platform in her analysis are that it contains a subject-matter section, a communication section and an organization section.

Electronic learning environment are thus comprehensive software packages that support some or all aspects of course preparation, delivery and interaction and are accessible via a network (Collis &

Moonen, 2001). Most electronic learning environments focus upon separate courses and do not collaborate with other systems such as the personnel database and a system for exams. It is believed that a system such as Blackboard or TeleTOP in combination with existing systems can offer a comprehensive electronic learning environment with one portal for instructors and students from which they can find all necessary information. However, this paper focuses on the electronic learning envrionment used in education. In the next sections TeleTOP and Blackboard are described as two examples of such an environment and a comparison between the two systems is made.

TeleTOP

TeleTOP is a course management system, developed at the Faculty of Educational Science and Technology of the University of Twente. Since 1997, the system has been developed and implemented. The implementation started at the faculty of Educational Technology and other departments soon followed (Collis & De Boer, 1999). At this moment TeleTOP is used throughout the University of Twente and is also in use in other Universities, companies and training settings. The core ideas to start building a Web-based environment were to support learning and make it more flexible. Furthermore the best of "old values of good teaching" and an attractive campus life with new didactics and advanced technologies were taken into account to optimize these new possibilities in learning.

The TeleTOP system was build upon a powerful database (Lotus Notes) and used by all staff members/teachers in the Faculty of Educational Science and Technology; it was made to be WWW-based (for both students as well as instructors) and it was made accessible through an ordinary Web-browser everywhere in the world. The TeleTOP system became a very easy to use system and it allowed to a certain extent fit with the instructional practices of an on-campus University and extent these to distance students as well. It also did engage change to new didactics. The starting-point was that WWW-based learning environments should not replace existing teaching and learning, but should add to them. As many systems TeleTOP is able to create and display all sorts of earning materials, as video, text, glossaries, web links, polls, quizzes, and so on. An important aspect of the environment is the Roster, a table-like environment in which study materials, assignment instructions, student submissions, and instructor feedback are integrated. This tool allows the instructor to model his course, create activities, relate assignments and study materials. It also helps instructors to think of effective ways tó communicate with the students, and helps them to set-up the structural communication models.

Blackboard

Blackboard is the commercial electronic learning environment, developed by Blackboard Inc., which is used at the University of Amsterdam. Within Blackboard each course is delivered through a website. This website contains all the content and tools required to teach a course. Each course has an instructor who manages the course through the Instructor Control Panel.

For this article a description of the functionalities of and the experiences with CourseInfo v4.0 is given, the version of the electronic learning environment developed by Blackboard, which was used during the best practice day (**see last section**). The University of Amsterdam has been using this version since 1999, and is now migrating to Blackboard 5, Level Three, the software platform that delivers a course management system, with a customizable institution-wide portal and online communities and advanced integration tools and APIs to integrate Blackboard 5 with existing institutional systems.

Differences and similarities

Before taking a closer look at the actual use of two electronic learning environments, lets first look at some general characteristics. Table 1 shows the Differences and/or similarities of two of them: Blackboard and TeleTOP.

Table 1. Differences and/or similarities between Blackboard and TeleTOP.

Topic	**Blackboard**	**TeleTOP**	**Differences and/or similarities**
Instructors interface	Web-based, The instructor is able to place materials through a control panel. In the 'view' mode he is able to see how the students see the course.	web-based en based on the principle: what you see is what you get. An instructor is able to see how the student will see the site immediately.	Difference in that prospects that BB works with a control panel, TT with what you see is what you get.
Instructor Tools	All course administration is done through the Instructor Control Panel. This area is only available to users with one of the following defined roles as instructor, teaching assistant, grader and system administrator. It contains the following tools: User management; Communication center; Page editors to add text and files; Creating assessment materials, including quizzes; Managing the online gradebook; Online support and documentation and Site management	The instructor can choose his tools from the menu, per functionality (i.e. news, or roster) the forms will able the instructor to easily put materials in the environment. The tools are organized around the following themes: course organization; communication; group work and educational resources.	
Student interface	Web-based, the student is able to find materials using a Web browser.	Web-based, the student is able to find materials using a Web browser.	Similar.
Student Tools	Web-based, accessed through 'My Blackboard' (a listing of all the announcements, courses, and calendar items that are created or associated with it in a central location) or 'course gateway listing' (a listing of all courses in which the student is enrolled) and contains tools for Announcements , course information ,staff information , course documents, assignments, communication and external links. Furthermore student tools as a digital dropbox, edit home page and personal information, course calendar, check grade, manual, tasks, a resource center , a course map are available	Information tools (news, course info); Communication tools (mail; FAQ, discussion) and Resources (web-link, MM, quizzes, polls, etc) Special is the Roster: a schedule tool to combine al resources into web or face-to-face sessions. Here, the course activities are described, and the educational resources are connected to these activities. For example the assignments and feedback to these assignments. The student tools, and also the student interface is similar to that of the instructors. The student has fewer rights for adding materials, but instructors can modify these rights, so that students are able to for example add resources.	The Roster of TeleTOP is typical for the environment

For a more detailed overview of differences and similarities between TeleTOP and Blackboard, as well as other systems, visit the site that Bruce Landon has set up: http://www.c2t2.ca/landonline/

Use of electronic learning environments in education, learning from experience.

In June 2001 a TeleTOP Best Practice day was organized at the University of Twente. A similar day was organized in September for Blackboard users at the University of Amsterdam. In both universities instructors were invited to present their experiences with the system in their education. There was a broad variety in instructors and courses, as instructors of different programs participated. In the presentations of the use of the electronic learning environments, instructors showed how the system was set-up, which functionalities were used, what goals were achieved and how this was experienced in the courses. The participants of both Best Practice days, all instructors also using the systems, were invited to nominate the presentation that they thought was the best example of good, useful and/or interesting use.

The best use of a TeleTOP site, selected by the instructors of the University of Twente, was a typical example of how electronic learning environments are used in the education at that university. Within the course the environment supports different students: students on campus and distance students who attend at face-to-face meetings every other Friday. Figure 1 shows a screen dump of the TeleTOP environment.

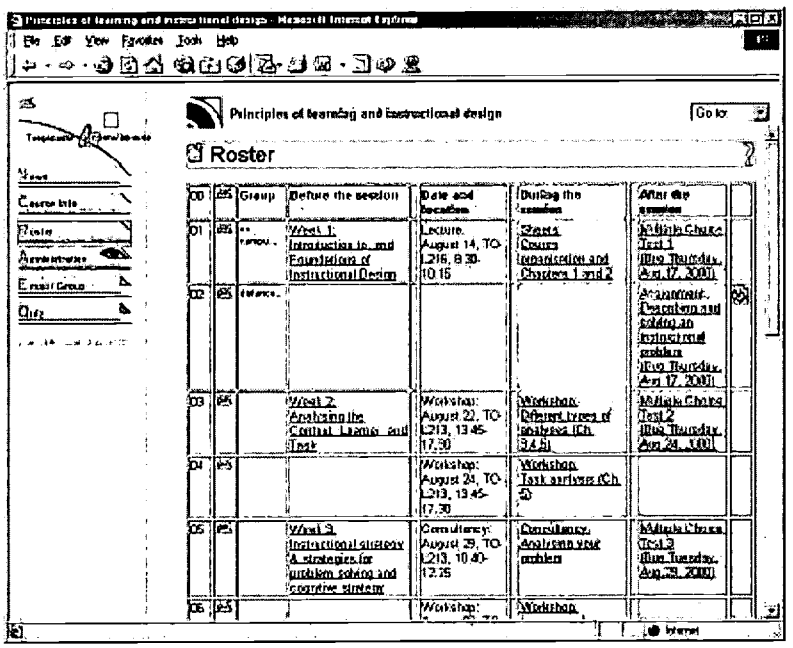

Figure 1. View of the Instructional Design course.

The instructor has used the environment to give a detailed overview of the schedule. A limited number of assignments were part of the course. The students could find these rights from the start of the course and were flexible in the submission of the assignments, though they needed it to submit for a fixed date. A part of these assignments were test in which the scoring and feedback was organized and given by he system. The instructors who liked this example, argued that the instructor managed to make use

of ICT in his education to make in as much flexible for students to participate, but also cared for his time, so it would not get out of hand.

The Blackboard course that was evaluated as best practice at the University of Amsterdam was the course "Design of modern foreign languages", a course for students from the Graduate School of Teaching and Learning, in which the students have to make a design plan for a language course. Students participating in this course are regular on-campus students. Functionalities of the Blackboard learning environment that are used by the instructor to set up the course are Announcements, Course Information, Staff Information, Course Documents, Assignments, Communication and External Links. Students have their own tools as described in Table 1. This can be seen in Figure 2.

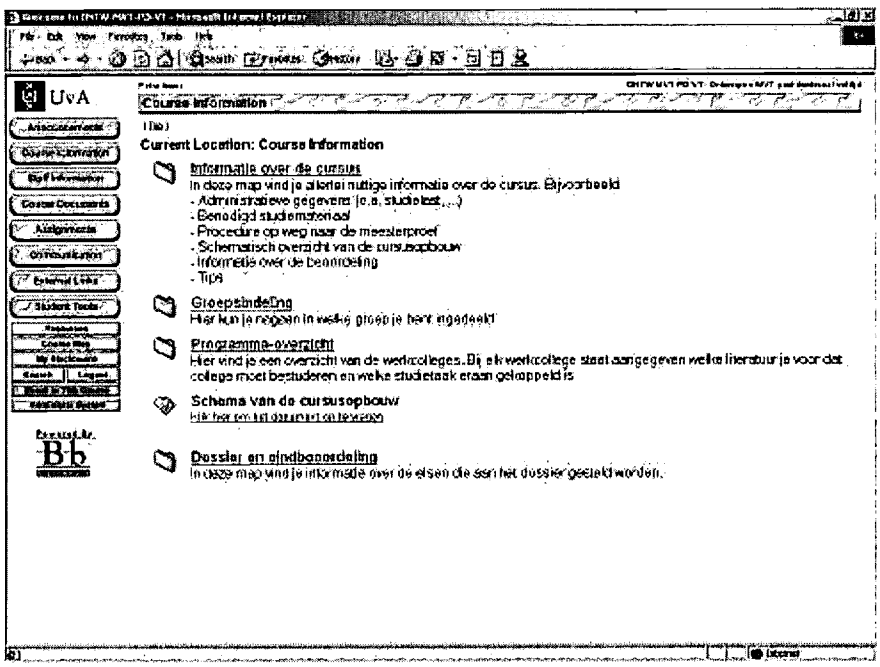

Figure 2. View of the Design of modern foreign languages course.

The options course information and assignments are the two options that are used most extensively. Students are informed about the course in general, including the goals, the schedule, and the way of assessing and grading the products of the student. The students have to do seven separate assignments. These assignments lead to a 'master test', the final assignment. In this assignment the students have to apply all knowledge and skills that they have used in the previous assignments.

The way the instructor designed the course and the way the functionalities were used were not evaluated as extremely original, but as very useful and consistent for the students. The instructor showed that by using the course in Blackboard next to the lectures students can benefit from an added value, especially related to time and place flexibility.

Conclusions

It is interesting to see what the institutions in the Netherlands that have decided to start working with electronic learning environments experience working with these systems. On one hand institutions

decide to organise a full institution-wide implementation of these systems. On the other had we see that instructors are still struggling with the question how they should use these new flexible tools and how this will change their teaching. They are concerned with how they can use the opportunities and functionalities that will make their teaching and their students' learning more flexible, efficient and enriched. In those institutions were a clear innovation goal has been set, these questions are more easier to answer than when the instructors have to deal with this question themselves. However, despite of the differences in electronic learning environments we see that instructors are creative, eager to learn how to use the tools and like the new possibilities. It looks like that best practice days as we have described in this paper are very fruitful opportunities for instructors to exchange ideas. Most important outcomes of the recent best practice days at the University of Twente and the University of Amsterdam are:

- Make education as flexible (in time and place) for students as possible, but be aware of time consuming activities that cause dissatisfaction and frustration.

- Let students benefit from the added value of an electronic learning environment, use functionalities that are useful for the students and use them consistently.

Further research should clarify if, and how, best practice days focussed on the exchange of experiences with an electronic learning environment have effect on the positive use of electronic learning environments in current and future education.

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